

COCHECO RIVER SUBWATERSHED



Photo by Flickr User drocpsu

PISCATAQUA REGION ENVIRONMENTAL PLANNING ASSESSMENT 2015

Cocheco River Subwatershed, including:

Barrington, Dover, Farmington, New Durham,
Rochester, Rollinsford, Strafford



PREP

Piscataqua Region Estuaries Partnership

www.prepestuaries.org

Cocheco River Subwatershed

INTRODUCTION

The Cocheco River is part of the Piscataqua River drainage basin flowing near the boundary between Maine and New Hampshire. The Cocheco River watershed's 185 sq.mi. is entirely within New Hampshire. Headwater streams arise in Milton, Farmington, Middleton and New Durham, with the highest elevation at 30 feet above sea level.

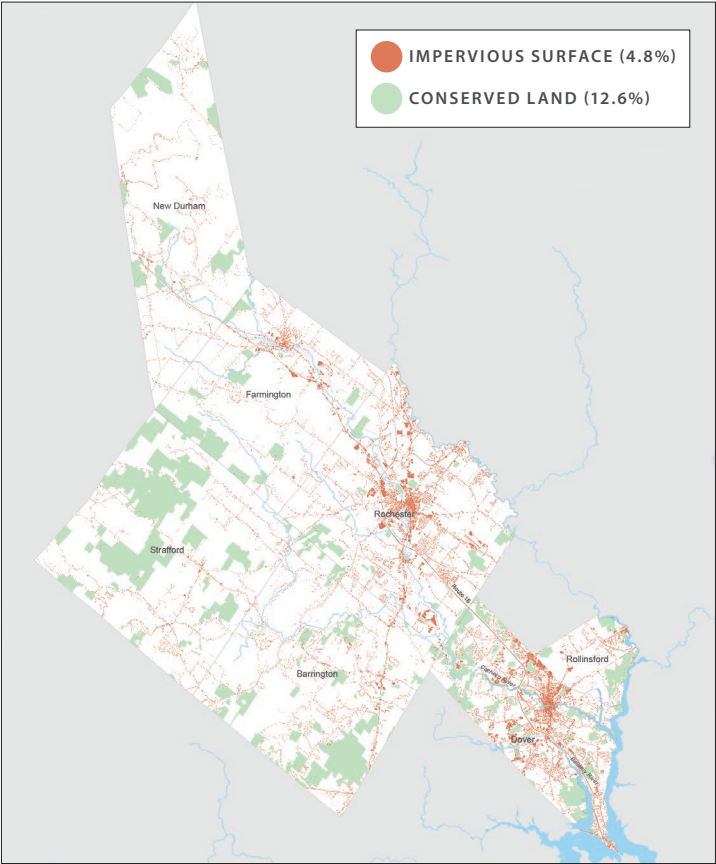
The river flows approximately 34.8 miles in a southeastern direction, through the cities of Rochester and Dover, before becoming tidal and joining with the Salmon Falls River to form the Piscataqua River (NHDES 2010).

The watershed faces the challenge of managing impervious surface levels and

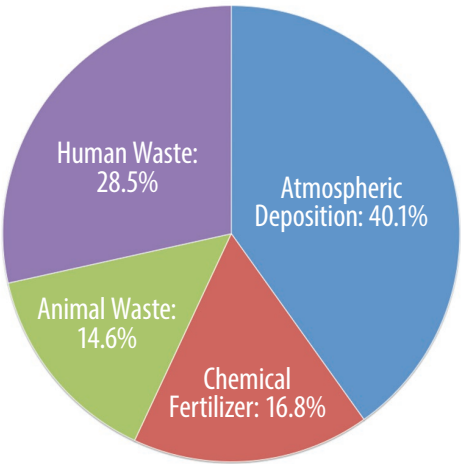
controlling stormwater pollution in populated centers like Dover and Rochester. As well as, maintaining rural character and conserving lands to protect the headwaters in Milton, Farmington and New Durham.

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Balance is key.
PREP recommends
no more than 10%
impervious cover and
no less than 20%
conservation land in
a watershed.



Data source: NHDES Great Bay Nitrogen Non-Point Source Study, 2014. Nitrogen measured in pounds per year.

Impervious Cover

There is an increasing trend of impervious cover for each of the seven towns from 1990 to 2010. This trend is consistent with the remaining subwatersheds in the Great Bay Watershed. As of 2010, Dover (22.7%), Rochester (17.4%) and Rollinsford (11.9%), exceed the NHDES maximum 10% impervious cover.

Nitrogen Loading

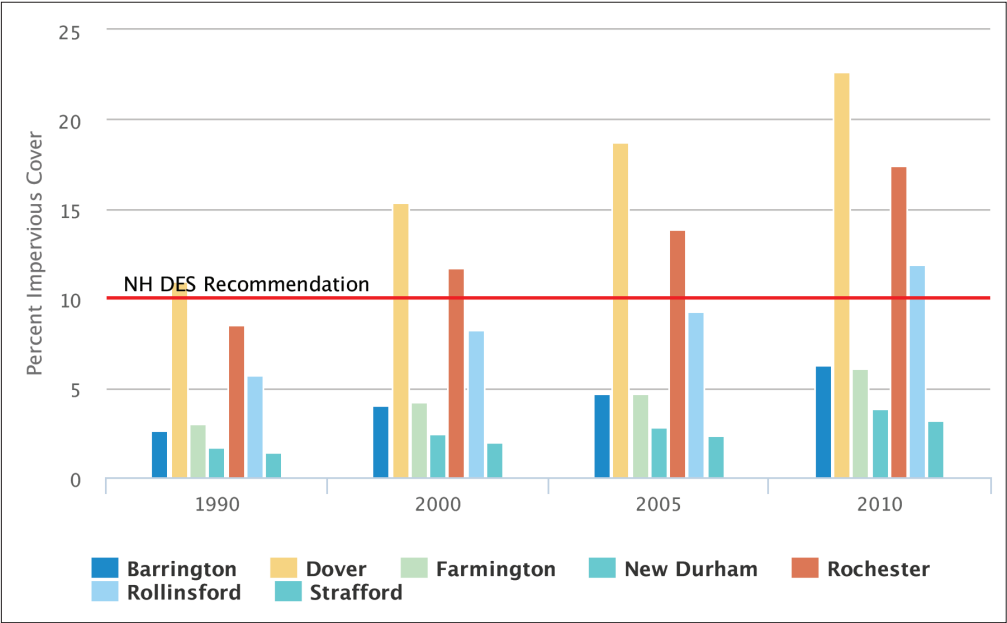
PRIMARY CONTRIBUTOR: ATMOSPHERIC DEPOSITION

contributes 152,946.4 pounds of nitrogen per year to the Cocheco River Watershed, and nearly 50 percent—or 76,077.9 pounds per year—is deposited on natural vegetation within the watershed. The remaining 50 percent is split between estuarine waters, disconnected impervious areas, lakes and rivers, connected impervious areas, agriculture, residential lawns, and golf courses, parks, and sports fields in descending order.

SECOND CONTRIBUTOR: HUMAN WASTE

contributes 108,478.2 pounds of nitrogen per year to the Cocheco River Watershed, and roughly 90 percent—or 98,465.4 pounds per year—comes from septic systems greater than 200 meters of a waterway. The remaining 10 percent comes from septic systems within 200 meters of a waterway.

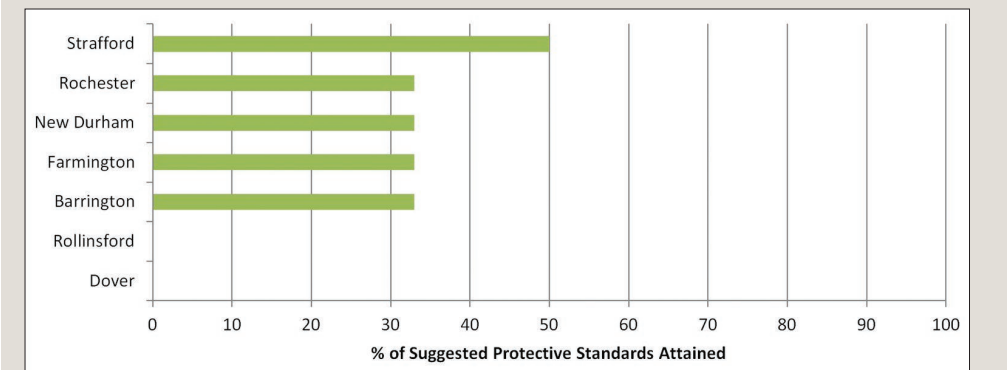
For more info please visit www.PREstuarines.org/PREPA



Report Cards

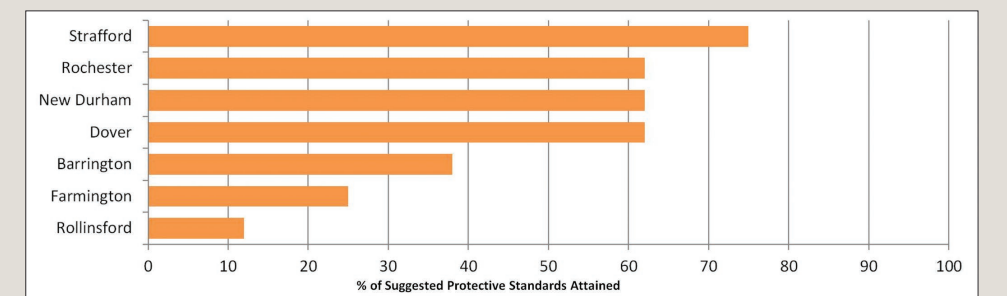
Freshwater Wetland Protection

1. Designated “prime” wetlands (NH) or “significant” wetlands (ME), and adopted local regulations to protect these wetlands?
2. Regulations that offer explicit protection of vernal pools?
3. No soil disturbance or No Vegetation Disturbance buffer requirement that is ≥ 100 feet?
4. Septic Setback requirement that is ≥ 100 feet?
5. Building Setback requirement that is ≥ 100 feet?
6. Fertilizer Application Setback requirement that is ≥ 100 feet?



Stormwater Management

1. Stormwater management regulations?
2. Less than or equal to 9% Impervious Cover?
3. Minimum area of soil disturbance that “triggers” application of the municipality’s stormwater management regulations less than or equal to 20,000 sq. ft.?
4. Cap of 10% effective impervious cover (EIC) for new development in residentially zoned lots of 1 acre or more?
5. Existing regulations require the use of Low Impact Development (LID) techniques to the maximum extent practicable for new/re-development?
6. Stormwater management regulations reflect the minimum design criteria for water quality volume/flow (WQV/WQF), groundwater recharge volume (GRV), and peak flow control defined in the NH Stormwater Management Volume 2?



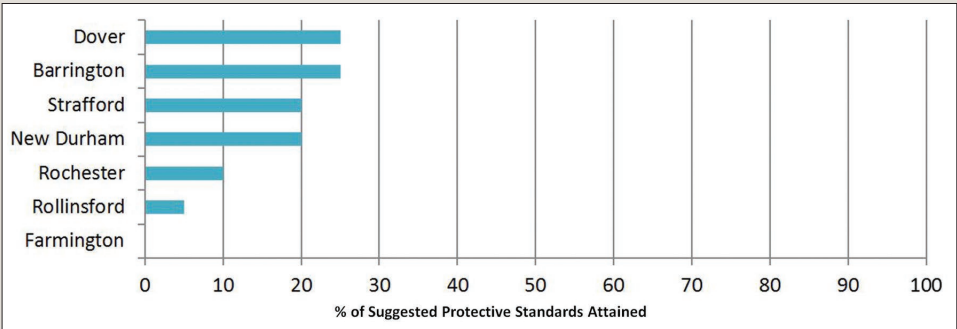
Shoreland Buffers and Setbacks

2nd – 4th Order Streams and Lakes/Ponds

- 1. No Vegetation Disturbance or Managed buffer requirement that is ≥ 100 feet?
- 2. Septic Setback requirement that is ≥ 100 feet?
- 3. Building Setback requirement that is ≥ 100 feet?
- 4. Fertilizer Application Setback requirement that is ≥ 100 feet?

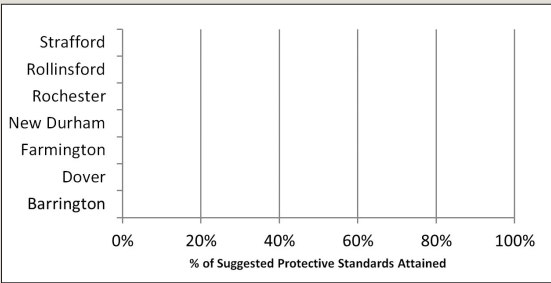
1st Order Streams

- 5. No Vegetation Disturbance or Managed buffer requirement that is ≥ 75 feet?
- 6. Septic Setback requirement that is ≥ 100 feet?
- 7. Building Setback requirement that is ≥ 100 feet?
- 8. Fertilizer Application Setback requirement that is ≥ 100 feet?



Climate Change

- 1. Has the municipality completed some form of climate change vulnerability assessment?
- 2. Has the municipality completed some form of climate change adaptation planning effort?
- 3. Has the municipality adopted regulatory changes intended to reduce the municipality's vulnerability to potential climate change impacts?



To explore specific data,
please visit www.PREPestuaries.org/PREPA

Actions by Community

The 2015 PREPA provides a comprehensive review of the current state of municipal regulations in the 52 communities in the Piscataqua Region watershed. Although most communities haven't taken some steps to protect their natural resources, more work is needed by **every community** in the Cocheco watershed.

Community Summary For each of the communities in the Cocheco Subwatershed, buffers should be the first priority. For many communities buffers exist for 1st-4th order rivers, lakes, and ponds, however each community should work to increase their buffer requirements. For communities with no defined buffers adopting buffers for all waterbodies is imperative for protecting water quality.

BARRINGTON			
1	2	3	4
Increase buffers on 1st-4th order streams to 100'	Increase wetland setbacks for buildings to 100'	Increase no disturbance abutting wetlands to 100'	Adopt model stormwater management regulations

DOVER			
1	2	3	4
Increase buffers on 1st-4th order streams to 100'	Increase setback for primary structures to 100'	Adopt fertilizer application setbacks for all water bodies	Increase setback for buildings from wetlands to 100'

FARMINGTON			
1	2	3	4
Adopt 100' buffers on all waterbodies, including wetlands	Increase wetland setbacks for septic and buildings to 100'	Adopt model stormwater regulations	Work with landowners to conserve land

NEW DURHAM			
1	2	3	4
Increase buffers on 1st-4th order streams to 100'	Increase setback for primary structures to 100' on 1st-4th order streams	Adopt fertilizer application setbacks for all water bodies	Work with landowners to conserve land

RECOMMENDED ACTIONS

The actions table is not meant to be exhaustive but does reflect a menu of prioritized recommendations for communities. Actions are directly related to the questions found on the PREPA assessment forms and reflects both regulatory and non-regulatory actions.

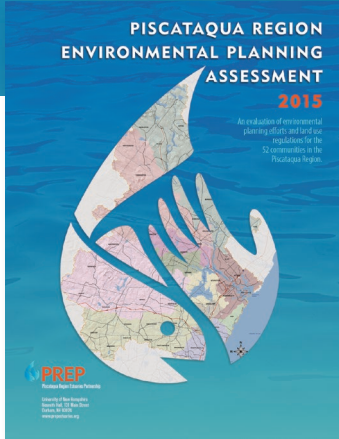
- 1 Top Ppriority Action
- 2 Second Priority Action
- 3 Third Priority Action
- 4 Fourth Priority Action

ROCHESTER			
1 Increase buffers to 100' for all waterbodies	2 Adopt 100' setbacks for septic systems for all waterbodies	3 Adopt mandatory conservation subdivision regulations	4 Work with landowners to conserve land

ROLLINSFORD			
1 Adopt buffers on all waterbodies, including wetlands	2 Adopt 100' setback for septic and structures for all waterbodies	3 Adopt fertilizer application setbacks for all water bodies	4 Adopt model stormwater management regulations

STRAFFORD			
1 Increase buffers to 100' for all waterbodies	2 Increase septic and structure setbacks to 100' for all waterbodies	3 Adopt fertilizer application setbacks for all water bodies	4 Adopt mandatory conservation subdivision regulations

Resources for implementing these actions can be found on the website www.PREPestuaries.org or contacting PREP at prep.assistance@unh.edu



The full PREPA report features deeper explorations of the data region-wide and gives greater context to the issues.

TAKE ACTION

Resources for implementing these actions can be found on the website

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